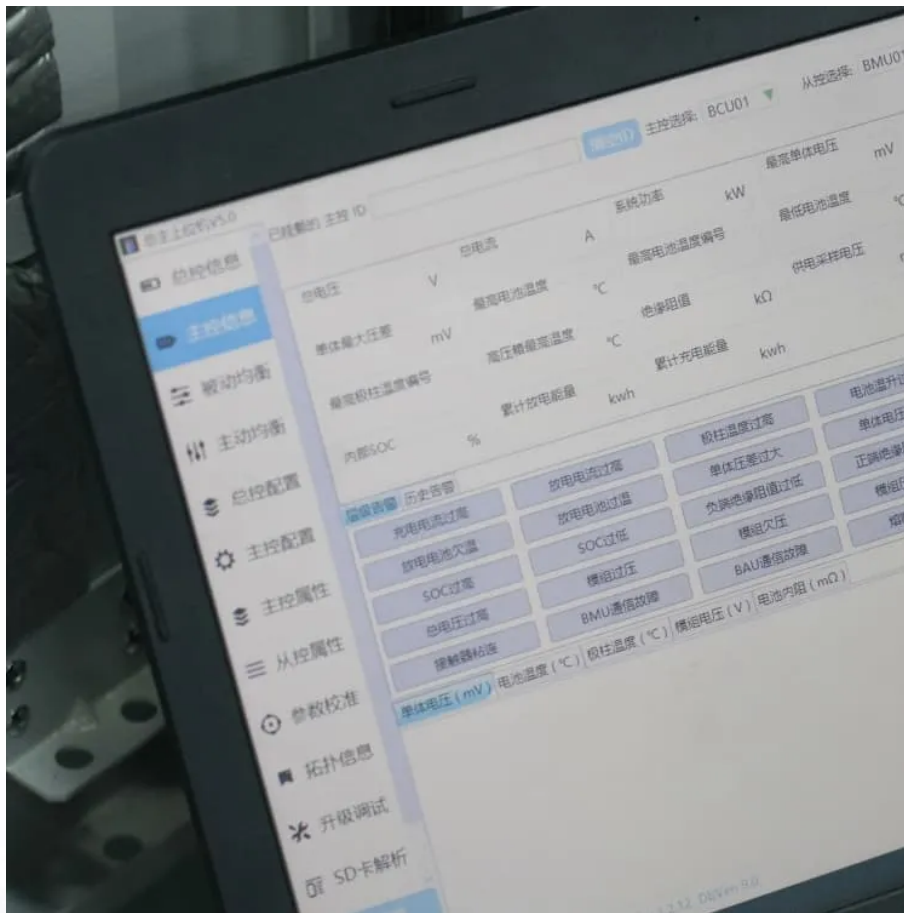


# Battery and flywheel energy storage





## Overview

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Thanks to the unique advantages such as long life cycles, high power density, minimal environmental impact, and high power quality such as fast response and voltage stability, the flywheel/kinetic energy storage.

Are flywheel energy storage systems a viable alternative to batteries?

This mismatch between supply and demand necessitates effective energy storage solutions. While batteries have been the traditional method, flywheel energy storage systems (FESS) are emerging as an innovative and potentially superior alternative, particularly in applications like time-shifting solar power.

What is the difference between a flywheel and a battery?

When considering energy storage options, the rivalry between flywheels and batteries often comes to the forefront. Both systems harness stored energy but operate on fundamentally different principles. Flywheel systems are primarily mechanical, storing energy in rotational motion, whereas batteries store energy chemically.

How can flywheels be more competitive to batteries?

The use of new materials and compact designs will increase the specific energy and energy density to make flywheels more competitive to batteries. Other opportunities are new applications in energy harvest, hybrid energy systems, and flywheel's secondary functionality apart from energy storage.

What are flywheel energy storage systems?

Flywheel energy storage systems have made notable strides in power plants, showcasing their ability to enhance grid stability and manage fluctuations. One apt example is the installation at the Beacon Power facility in Hazle Township, Pennsylvania.



## Battery and flywheel energy storage

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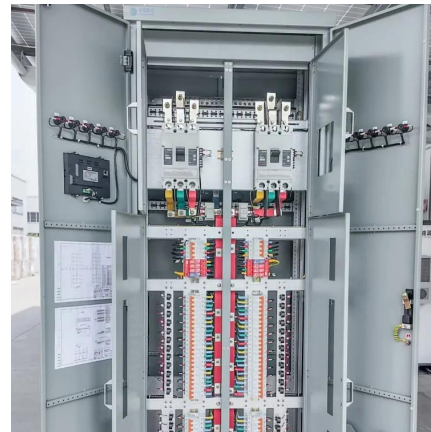
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